REMARKS/ARGUMENTS

Status of the Application

In the Office Action, claims 1-6, 8-10 and 13 were rejected. In the Advisory Action, the Examiner indicated that claims 1-6, 8-10 and 13 would continue to be rejected. In the present Response, claim 1 has been amended so that claims 1-6, 8-10, and 13 are pending.

Claim 1 has been amended to more clearly define the cured filler layer as producing no edge marks when the topcoat layer is applied thereto. Claim 1 has also been further amended to more clearly define the binder components A), B) and C) as free-radically polymerizable binders containing at least one free-radically polymerizable double bond. Claim 1 has also been amended to clearly indicate that the component B) (meth)acrylic acid ester does not contain alcohol groups per se, but rather is formed by reacting at least one cycloaliphatic alcohol with a (meth)acrylic acid. Finally, claim 1 has been amended to identify the "filler coating composition" as being "liquid" and not the "filler layer", wherein such revision is not made for reasons related to patentability but rather to correct the misplaced insertion of the word "liquid."

Support for these amendments can be found at page 2, lines 9-10; page 3, lines 1-17; page 3, line 30 to page 4, line 14; and page 4, lines 20-21.

No new matter has been added.

Rejections Under 35 U.S.C. § 103(a)

Rejections over Maag, Takeda and/or Brehm

In the Final Office Action, claims 1-6, 8 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over WO 99/26733 to Herberts (which corresponds to DE-A-197 57 082 to Maag) in view of U.S. Patent No. 4,615,915 to Takeda, and further in view of U.S. Patent No. 5,596,043 to Brehm.

As to claims 2-4, 6 and 13, the Examiner asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used phosphoric acid esters in the surfacer coating composition of [] [Maag] comprising chemically crosslinking epoxy-amino resin with the expectation of providing the desired acceleration of curing since Takeda et al. teach that

phosphoric acid esters can be used for acceleration of curing a painting composition comprising epoxy-amino resin." The Examiner further asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used methacrylates of cycloaliphatic alcohols such as isobornyl methacrylate as methacrylate reactive thinner in [] [Maag] in view of Takeda et al ... for the use in automotive coatings since Brehm et al teach that monofunctional reactive thinners, such as isobornyl methacrylate is suitable for the use in a radiation curable coating composition in combination with acrylic prepolymers."

Specifically, the Examiner asserts that Maag "discloses all of the steps recited in claim 1 such as a) applying to *optionally* pre-coated metal or plastic surface ... a surface coating composition for automotive repair lacquering ... comprising 100% ... of a prepolymer having molecular mass of **200**-10,000 and containing on average **2** to 20 olefinic double bonds per molecule (a binder A) ... and 1 to 50 wt. % of a reactive monosaturated diluent, e.g. esters of methacrylic acid ... and a chemically crosslinking binder ... (i.e. a *liquid* surfacer coating composition), b) curing the applied surfacer coating composition by irradiation with high energy radiation ... ; c) applying a top coat layer comprising a color-imparting and/or special-effect-imparting base lacquer layer and a transparent clear lacquer layer, or a top coating comprising a pigmented one-layer top lacquer ... to the cured filler layer and curing the top coat layer...." The Examiner further asserts that column 4, lines 32-40 discloses that "[a]ny two-component binder system based on a hydroxy-functional and an isocyanate-functional component, a hydroxy-functional and an anhydride component, a polyamine component and an epoxy component or a polyamine component and an acryloyl-functional component may, for example, be used as chemically cross-linking binders". Finally the examiner alleges that column 6, lines 56-59 of Maag discloses that "[t]he temperatures generated on the coating by means of the UV irradiation (UV flash lamp) are generally sufficient to cure the additional cross-linkable binders", and therefore "[n]o separate curing operation is necessary."

The Examiner, however, correctly notes that Maag "fails to teach that the surfacer coating composition comprises at least one compound having at least one phosphoric acid group (Claim 1) in an amount of 1-15 wt. % (Claim 5)." The Examiner further correctly notes that Maag and Takeda both "fail[] to teach that the esters of methacrylic acid are esters of cycloaliphatic alcohols [claim 1] such as isobornyl methacrylate (Claim 8)."

With regard to the missing phosphoric acid limitation, the Examiner turns to Takeda, which the Examiner asserts, discloses at column 3, lines 39-43 and 56-59 "that phosphoric acid esters can be used for acceleration of curing a painting composition comprising epoxy-amino resin".

With regard to the missing 1-15 wt.% limitation, the Examiner asserts that in accordance with the holding of Akzo v. E.I. du Pont de Nemours,1 USPQ2d 1704 (Fed. Cir. 1987), "concentration limitations are obvious absent a showing of criticality." As a result, the Examiner claims "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have discovered the optimum or workable ranges of concentration limitations of a compound having at least one phosphoric acid group (including those of claim 5) in [] [Maag] in view of Takeda et al by routine experimentation in the absence of a showing of criticality."

With regard to the missing cycloaliphatic alcohol and isobornyl methacrylate limitations, the Examiner turned to Brehm, which the Examiner asserted discloses "that monofunctional reactive thinners, such as isobornyl methacrylate ...may be used in combination with acrylic prepolymers ... in a radiation curable coating composition ... for coating automobile parts ... to provide good flow properties of the coating composition and thereby good processibility ...." In light of the Examiner's assertion that Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327 (1945) "held that the selection of a known material based on its suitability for its intended use supported a prima facie case of obviousness", it appears that the Examiner is asserting that a prima facie case of obviousness has been made as to Brehm.

Applicants, however, respectfully assert that in light of presently amended claim 1, Maag in view of Takeda and in further view of Brehm does not teach or

suggest ALL of the limitations of Applicants' claimed invention, and therefore the Examiner has not established a *prima facie* case of obviousness. Indeed, as the Examiner is aware Section 2143.03 of the MPEP indicates that "all the claim limitations must be taught or suggested by the prior art" to establish a *prima facie* case of obviousness. Accordingly, Applicants respectfully request that the Examiner withdraw this rejection.

Furthermore, Applicants respectfully reassert that Takeda and Brehm are non-analogous prior art, and therefore cannot form the basis for a 35 USC § 103 rejection. As section 2141.01(a) of the MPEP indicates, "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)." What is "reasonably pertinent" is identified in section 2141.01(a) of the MPEP as being a reference, "even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

Although the Examiner argues that Takeda and Brehm are reasonably pertinent to the problem with which Applicants were concerned because Takeda "suggests the desirability of the addition of phosphoric acid esters to a coating composition of Maag comprising epoxy-amino resin to accelerate its curing", and Brehm discloses that isobornyl methacrylate can be used as "a reactive thinner in Maag to achieve good processability of the coating composition", Applicants respectfully assert that neither accelerating the curing, nor achieving a filler coating composition having better processability was the problem with which Applicants' were concerned.

In contrast, Applicants were concerned with obtaining UV curable priming fillers that exhibit both 1) improved adhesion to a substrate, and 2) no edge marks upon being overcoated with a topcoat layer, while still possessing good processing characteristics.

It is of interest to note that the Examiner's primary reference Maag was identified by Applicants at page 1, lines 26-30 as being a prior art patent known to involve filler coating compositions. Applicants, however, explain at page 1, lines 32-34 that known filler coating compositions (including the filler coating compositions of Maag) "exhibit ... several disadvantages, in particular if they are to be formulated and used as priming fillers." Applicants further explain at page 1, line 37 to page 2, line 2 that "UV curable priming fillers still exhibit inadequate adhesion onto metal substrates, such as, aluminum, steel and zinc", and that "edge marks may occur on overcoating with further coating layers and the coating compositions exhibit deficiencies with regard to stability and/or flow." Applicants then expressly indicate at page 2, lines 3-10 that "[t]his invention provides a process ...that makes it possible to apply filler coating compositions curable by means of high energy radiation that yield coatings with excellent adhesion to the substrate...[w]hile retaining good processing characteristics", and produce filler layers that when "overcoated, no edge marks should occur." (emphasis added).

As a result, Applicants respectfully reassert that upon reviewing the disclosures of Takeda and Brehm as a whole, it is evident that neither Takeda, nor Brehm are either in the field of automotive repair coatings, or reasonably pertinent to the particular problem with which Applicants were concerned.

In contrast, Takeda indicates at column 1, lines 6-8 that he is concerned with "forming a thick coated film on the welded joint part of a welded metallic can." Upon further reviewing Takeda, it becomes clear that the metallic cans with which Takeda is particularly concerned are those cans designed to hold carbonated beverages, i.e. soda pop cans. In fact, Takeda is even more particularly focused on formulating a coating that is capable of favorably coating the welded portion of the can, and not necessarily the entire can. See column 1, lines 11-31 and lines 65-68 and column 2, lines 1-30.

Moreover, Brehm indicates at column 1, lines 9-14 that his "invention relates to UV-curable scratch-resistant coatings for plastics, particularly scratch-resistant varnishes having thickeners which become bound in the composition of the varnish by polymerization ... when the varnish is used." In particular, it becomes evident upon more closely reviewing Brehm that Brehm is concerned

with providing transparent plastics—and NOT metallic automotive bodies or parts thereof—with a more scratch resistant coating.

Applicants, however, expressly indicate at page 1, lines 5-8 that their "invention relates to a process for multilayer coating, in particular repair coating of substrates," wherein the process is "used in the field of automotive and industrial coatings." More particularly, it becomes evident upon reviewing Applicants' disclosure that their claimed coating process is concerned with coating metallic substrates, such as automotive bodies and parts thereof.

Moreover, neither Takeda, nor Brehm indicate anywhere therein that their coating compositions either would, or could produce a coating composition that when used in an automotive repair coating process in accordance with Applicants' claimed invention would exhibit a) excellent adhesion to a metallic substrate, and b) no edge marks when overcoated with further coating layers, while at the same time retaining good processing characteristics.

In fact, Brehm indicates at column 2, lines 26-67 that he is concerned with producing thickeners that have better weatherability than those currently available, wherein the thickeners enable a more scratch resistant and yet clear, i.e. non-cloudy coating to be produced for plastic substrates. As a result, Brehm is concerned with improving weatherability.

Furthermore, Takeda is concerned with applying a thick coating to the welded portion of a can via a two-step process so as to effectively cover the welded portion of the can with a smooth coating that does not foam. Takeda is additionally concerned with producing a coating on the welded portion of the soda can that 1) imparts corrosion and sulfide resistance to the soda can, 2) properly adheres to the welded portion of the soda can without adhering to unwanted portions of the can, 3) is stable, 4) can be applied in a uniform thickness, i.e. does not vary in thickness, and 5) does not block flow passages of the equipment used in applying the coating. See, Takeda column 1, line 21 to column 3, line 3.

Takeda further indicates at column 3, lines 29-38 that the aforementioned objectives can be met via a method comprising a first step of coating the welded joint of the soda can with a primer composed of a solution of a thermosetting

resin in an organic solvent and drying it, and a second step of coating the dried primer layer with a slurry paint, and drying the coating layer.

As both Takeda and Brehm fail to indicate anywhere therein that their coating compositions either would, or could produce an acceptable automotive repair coating possessing the coating characteristics afforded by Applicants' claimed repair coating process, neither Takeda, nor Brehm would have logically commended itself to the attention of a person of ordinary skill in the art seeking to produce an automotive repair coating possessing the characteristics of the repair coating produced in accordance with Applicants' claimed process.

As neither Takeda, nor Brehm are either in the field of Applicant's endeavor, or reasonably pertinent to the particular problem with which Applicants were concerned, Applicants respectfully assert that Takeda and Brehm are non-analogous prior art, and therefore cannot form the basis for a 35 USC §103 rejection. Accordingly, Applicants respectfully request that the Examiner withdraw all of the rejections predicated on Takeda and Brehm.

Rejections over Maag, Richard and/or Brehm

Claims 1-6, 8-10 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 99/26733 to Herberts (which corresponds to DE-A-197 57 082 to Maag) in view of U.S. Patent No 5,091,211 to Richard, and further in view of Brehm.

The Examiner asserts that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified a radiation curable surfacer coating composition of [Maag] ... by adding a compound having phosphoric acid group and a double bond such as methacryloyl-modified phosphoric acid derivative with the expectation of providing the surfacer coating composition with the desired improvement of adhesive properties of the composition toward plastic substrates, as taught by Richard." The Examiner further asserts that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used methacrylates of cycloaliphatic alcohols such as isobornyl methacrylate as methacrylate reactive thinner in [] [Maag] in view of Takeda et al ... for the use in

automotive coatings since Brehm et al teach that monofunctional reactive thinners, such as isobornyl methacrylate is suitable for the use in a radiation curable coating composition in combination with acrylic prepolymers."

In reaching this conclusion the Examiner reasserted the same arguments as already set forth hereinabove regarding Maag.

The Examiner, however, once again correctly noted that Maag "fails to teach that the radiation curable surfacer coating composition comprises at least one compound having at least one phosphoric acid group (Claim 1) in an amount of 1 -15 wt. % (Claim 5) or a compound having phosphoric acid group and a double bond (Claim 9) such as methacryloyl-modified phosphoric acid derivative (Claim 10)", and that Maag "in view of Takeda et al or Richard, as applied above, fails to teach that the esters of methacrylic acid are esters of cycloaliphatic alcohols (Claim 7) such as isobornyl methacrylate (Claim 8)."

In addressing the absence of the at least one phosphoric acid group, the compound having phosphoric acid group and a double bond, and the methacryloyl-modified phosphoric acid derivative limitations, the Examiner turned to Richard, which the Examiner alleges teaches at column 1, lines 57-60 and at column 2, lines 1-2, 10-15 & 37 "that addition of a compound having phosphoric acid group and a double bond such as methacryloyl-modified phosphoric acid derivative ... to a radiation curable coating composition improves adhesion bond of the coating to a plastic substrate ...."

With regard to the missing weight percentage range of claim 5, the Examiner reasserted the same arguments as already set forth hereinabove.

With regard to the missing cycloaliphatic alcohol and isobornyl methacrylate limitations, the Examiner reasserted the same arguments as already set forth hereinabove.

Applicants, however, respectfully assert that in light of presently amended claim 1, Maag in view of Richard and in further view of Brehm does not teach or suggest ALL of the limitations of Applicants' claimed invention, and therefore the Examiner has not established a *prima facie* case of obviousness. Indeed, as the Examiner is aware Section 2143.03 of the MPEP indicates that "all the claim limitations must be taught or suggested by the prior art" to establish a *prima facie*

case of obviousness. Accordingly, Applicants respectfully request that the Examiner withdraw this rejection.

Moreover, Applicants respectfully reassert that the Examiner is using hindsight reconstruction to arrive at Applicants' claimed invention. In fact, Applicants believe the requisite motivation to combine Maag and Richard is not coming from the references themselves, but rather from Applicants' specification. Indeed, it appears as if the Examiner, in direct contravention of the statutory mandate of section 103 requiring obviousness to be judged at the point in time when the invention was made, is using Applicants' disclosure as a blueprint to reconstruct their claimed invention from isolated pieces of Maag and Richard. *See*, *Grain Processing Coro. v. Am. Maize-Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988).

In fact, the Examiner's combination of two references in unrelated fields indicates that the Examiner is simply using hindsight to reconstruct Applicants' claimed invention. Indeed, a person of ordinary skill in the art would not logically look to coatings used in coating vinyl floors to develop an improved automotive repair coating process for coating metallic automotive bodies and parts thereof in accordance with Applicants' claimed invention.

In addition, the Applicants recognize that Richard is being combined with Maag and NOT Applicants' claimed invention. The point, however, is that a person of ordinary skill in the art seeking to invent the filler layer coating process of Applicants' claimed invention would NOT have looked from Maag to Richard. In determining whether an Applicants' invention is obvious, the subject matter with which Applicants' invention is concerned necessarily has to be considered as such an obviousness determination cannot possibly be conducted in a vacuum.

Indeed, Section 2143.01 indicates that "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." In fact, Maag is completely devoid of a single teaching that would lead a person of ordinary skill

in the art seeking to invent a primer filler coating process that results in a primer filler layer having improved adhesion and exhibiting no edge marks upon being overcoated while still having good processabilty to refer to the vinyl floor coating of Richard. Accordingly, Applicants respectfully request that the Examiner identify the express teaching in Maag that would have led a person of ordinary skill in the art to look to the vinyl floor coating of Richard.

Applicants, respectfully point out that a person of ordinary skill in the art would be intimately familiar with the markedly different characteristics a vinyl floor coating is desired to possess over those of an automotive coating. For example, a vinyl floor coating is not exposed to the same environmental conditions as a coating for an automobile. That is, a vinyl floor coating is not expected to be exposed to the same variations in weather conditions, such as temperature, UV rays, rain, sleet, snow, humidity, etc, to which a coating applied to an automobile is expected to be exposed. As a result, a person of ordinary skill in the art, and indeed the man on the street, would not expect disclosures related to vinyl floor coatings to be readily applicable to automobile coatings.

Although the Examiner has asserted that Richard's combinability with Maag springs forth from Maag's reference to plastic substrates, this argument rings hollow. Maag is clearly concerned with coatings in the automotive repair coating field – NOT the vinyl floor manufacturing field—and therefore a person of ordinary skill in the art would not have looked from Maag to Richard simply because Maag makes a passing reference to plastic substrates.

In the Advisory Action, the Examiner asserts that "Maag teaches both metallic and plastic substrates", Applicants, however, are at a loss as to the Examiner's point. Applicants readily acknowledge that such a disclosure is contained in Maag. Applicants, however, fail to see where this gets the Examiner as such a disclosure still fails to provide any suggestion, teaching, or motivation to combine Maag with Richard.

The Examiner further asserts in the Advisory Action that "no matter to what substrate a coating is applied, its curing would be accelerated by addition to the coating of phosphoric acid esters." Applicants, however, respectfully assert that the Examiner is getting ahead of herself as there must first be some

teaching, suggestion or motivation that is either explicitly, or implicitly found in Maag to look to the vinyl floor coating of Richard. Applicants again respectfully request that the Examiner identify the explicit or implicit teaching in Maag that would lead a person of ordinary skill in the art to look to the teachings of Richard to produce Applicants' claimed invention.

To the contrary, Applicants respectfully assert that there is no such teaching, but that the Examiner is, instead, clearly backing the teachings of Richard into Maag in an attempt to reconstruct Applicants' claimed repair coating process with the improper use of hindsight. Indeed, a person of ordinary skill in the art would not have looked to the vinyl floor coatings of Richard at the point in time when Applicants' claimed invention was made simply because Maag refers to plastic substrates. In fact, the Examiner's argument leads to the illogical conclusion that a person of ordinary skill in the art would look to the teachings of ALL references related to plastic substrates irrespective of the field with which the reference is concerned. The Examiner's combinability arguments, therefore, lead to the inevitable and overwhelmingly obvious conclusion that the Examiner is simply picking and choosing disclosures contained in unrelated references to arrive at Applicants' claimed repair coating process.

As the Examiner's combination of Richard, Brehm and Maag are erroneously based on isolated pieces of each of these references, the Examiner is engaging in impermissible hindsight reconstruction, and therefore the Examiner has failed to establish a prima facie case of obvious. Accordingly, Applicants respectfully request the Examiner withdraw all rejections predicated on the combination of Maag, Richard and Brehm.

In addition, Applicants respectfully reassert that Richard is non-analogous prior art, and therefore cannot form the basis for a 35 USC § 103 rejection. Indeed, Richard is neither in the field of automotive repair coatings, nor reasonably pertinent to the particular problem with which Applicants were concerned. In fact, Applicants expressly state in the claims and at page 1, lines 5-8 that their "invention relates to a process for multilayer coating, in particular repair coating of substrates," wherein the process is "used in the field of automotive and industrial coatings." Applicants further expressly indicated at

page 2, lines 3-10 that the problem with which they were concerned was obtaining UV curable priming fillers that exhibit both 1) improved adhesion to a substrate, and 2) no edge marks upon being overcoated with a topcoat layer, while still possessing good processing characteristics.

In stark contrast, Richard indicates at column 1, lines 6-10 that his "invention relates to a method for improving the adhesion between vinyl resin layers such as are used as the wear layer on vinyl floor and wall tile and acrylate urethane topcoats." As a result, it is readily evident upon a closer review of Richard that Richard relates to vinyl floor covering manufacturing, and NOT to automotive repair coating processes for automotive bodies or parts thereof in accordance with Applicants' claimed coating process.

Moreover, Richard is not reasonably pertinent to the particular problem with which Applicants were concerned. Indeed, Richard fails to indicate anywhere therein that his method either would, or could produce a coating composition that when used in an automotive repair coating process in accordance with Applicants' claimed invention would exhibit 1) excellent adhesion to a metallic substrate and 2) no edge marks when overcoated with further coating layers, while still possessing good processability.

In fact, Richard indicates at column 1, lines 27-39 that he is concerned with improving the adhesive strength of the bond between the acrylated urethane top-coat resin layer and the vinyl floor layer to which the top-coat is applied. Nowhere does Richard ever mention that either his coating composition, or any ingredient utilized therein can be successfully used in an automotive repair coating process in accordance with Applicants' claimed invention. More particularly, Richard is dealing exclusively with compositions related to vinyl floor coverings—and not metallic substrates.

Although the Examiner asserts that Richard is combinable with Maag due to Maag's reference to plastic substrates, Applicant's respectfully assert that a person of ordinary skill in the art would never look to Richard in the first instance as it is non-analogous prior art.

As Richard fails to indicate anywhere therein that his coating composition either would, or could produce an acceptable automotive repair coating

possessing the coating characteristics afforded by Applicants' claimed repair coating process, Richard would not have logically commended itself to the attention of a person of ordinary skill in the art seeking to produce an automotive repair coating possessing the characteristics of a coating produced in accordance with Applicants' claimed repair coating process. Accordingly, as Richard is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which Applicants were concerned, Applicants respectfully assert that Richard is non-analogous prior art that cannot form the basis for a 35 USC § 103 rejection. Applicants, therefore, respectfully request that the Examiner withdraw all rejections predicated on Richard.

Summary

In view of the foregoing remarks, Applicants respectfully submit that this application is in condition for allowance and such action is requested. In order to expedite disposition of this case, the Examiner is invited to contact Applicants' representative at the telephone number below to resolve any remaining issues. Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

Respectfully submitted,

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